

FAAM facility for airborne atmospheric measurements

FLIGHT FOLDER



Flight No.: B031
 Date: 19 Jul 2004
 Take Off: 10:31:39
 Landing: 16:13:56
 Flight Time: 5h42m17

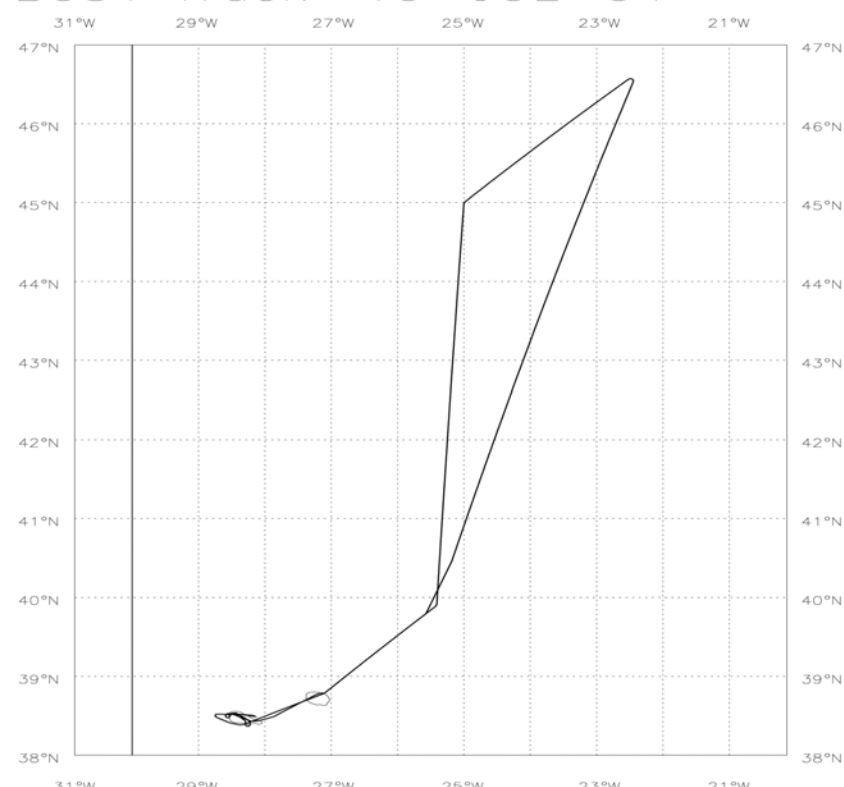
Trials Instructions: ITOP – Interception of North American pollution to north of the Azores

Operating Area: N of Anava (42-47N)

POB	Position	Name	Institute
1	Captain	Alan Foster	Directflight
2	Co-pilot	Alan Roberts	Directflight
3	Mission Scientist 1	John Methven	Reading University
4	Flight Manager	Steve Devereau	FAAM
5	Core Chemistry/FWVS	Doug Anderson	FAAM
6	PAN/TDL/PSAP	Jim McQuaid	Leeds University
7	HCHO	Graham Mills	UEA
8	PTR-MS	Anne Hulse	UEA
9	WAS	Nicola Watson	York University
10	PERCA	Mark Jacob	Leicester University
11	Peroxides	Brian Bandy	UEA
12	AMS	Paul Williams	UMIST
13	NOxy	Dave Stewart	UEA
14	Mission Scientist 2	Steve Arnold	Leeds University
15	Observer	Kirsty Pringle	Leeds University
16	CCM	Gaynor Ottaway	Directflight
17			
18			

Track Plot:

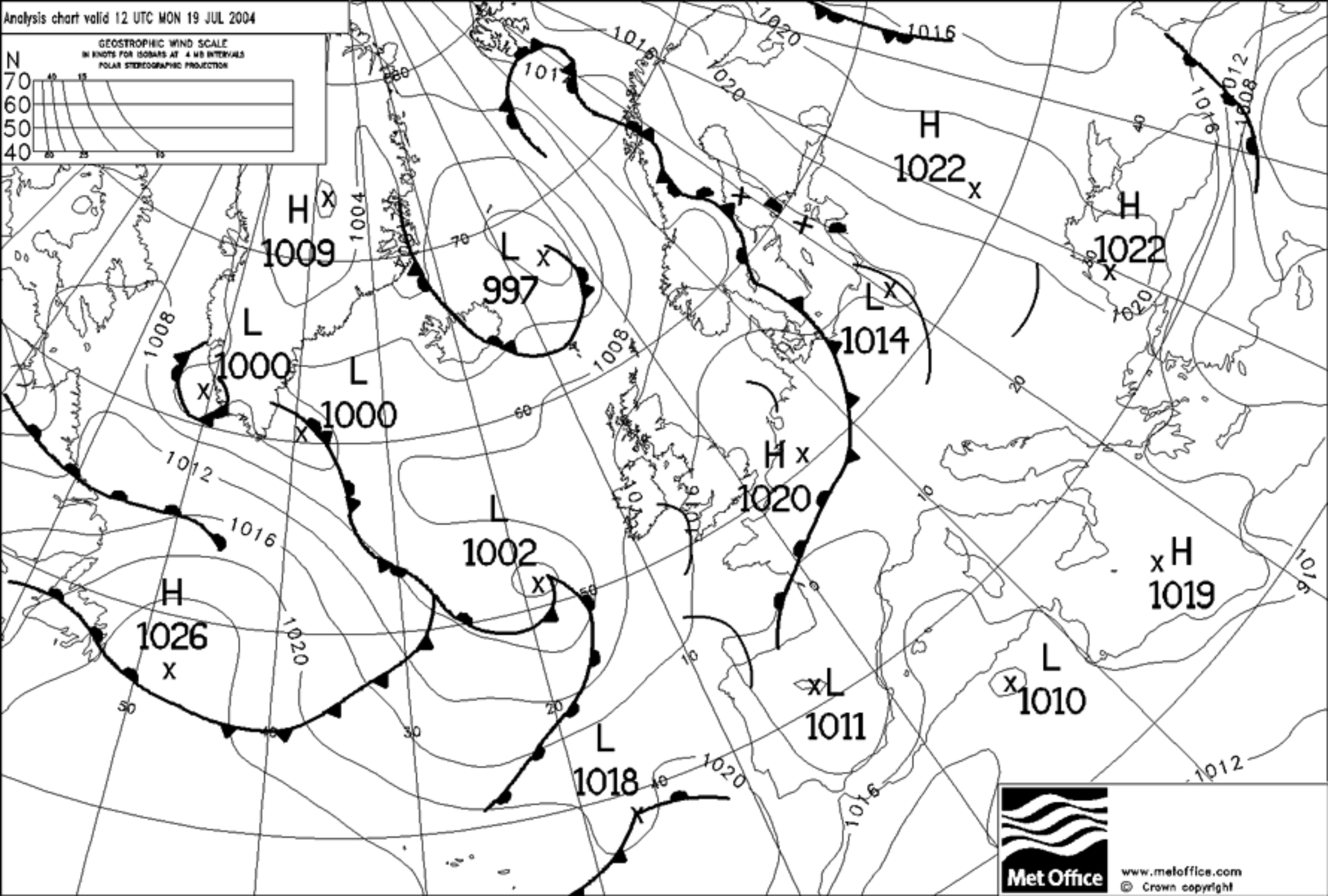
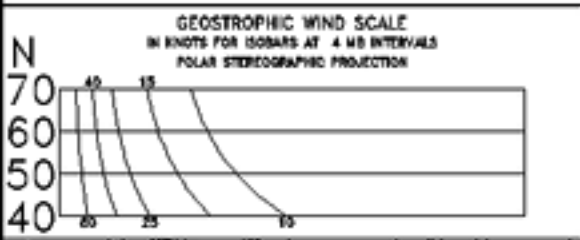
B031 Track 19-JUL-04



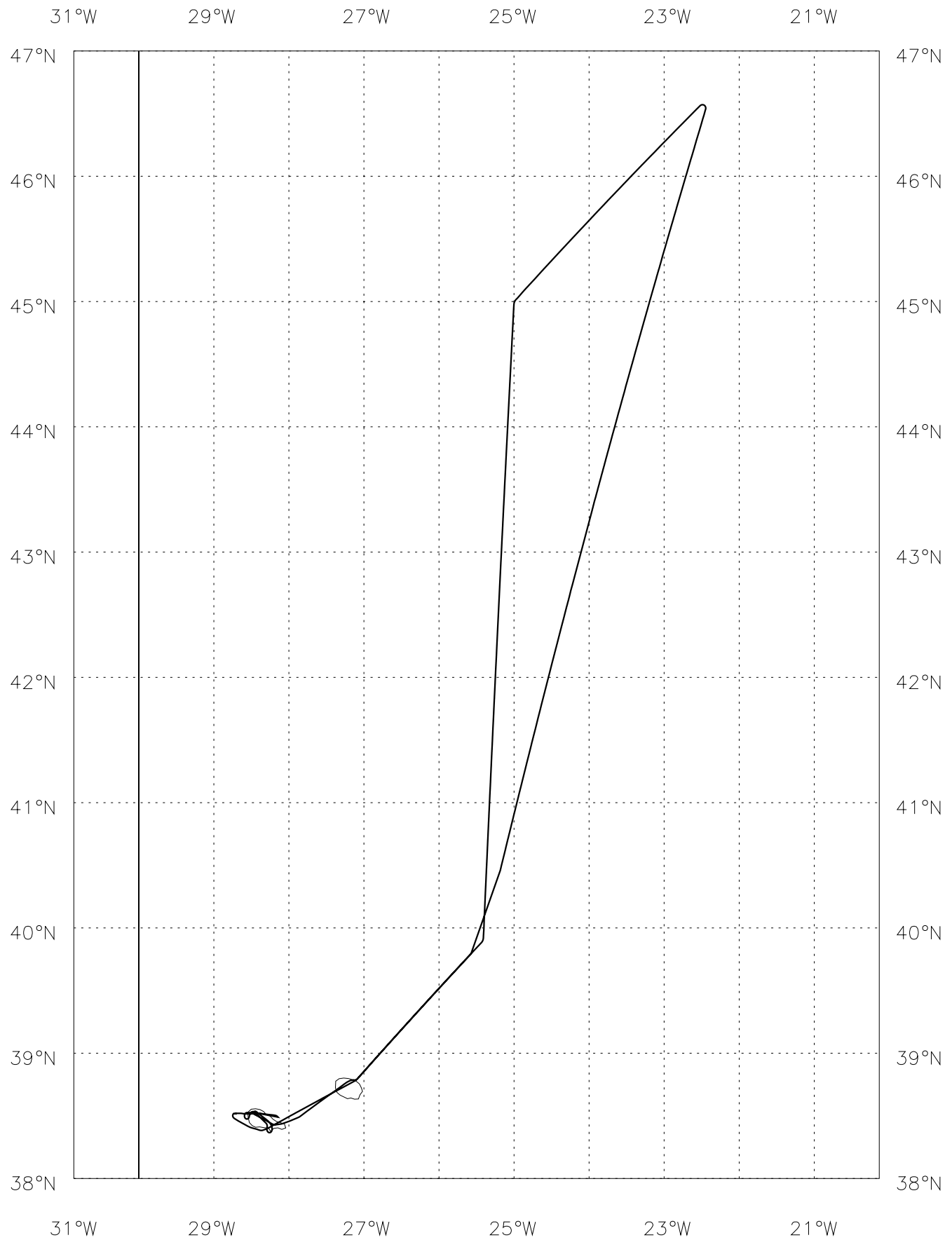
FLIGHT SUMMARY

Flight No: B031
 Date: 19th July 2004
 Project: ITOP
 Location: Horta, Azores

Start Time	End Time	Event	Height (s)	Hdg	Comments
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101900					INU to Nav.
103139		T/O	-.20 kft	270	Horta
103500					ASPs open
103703	103920	Run 1	5.0 kft	101	
104000					TWC reset
104720	110445	Run 2	15.0 kft	063	cal run
111828	113357	Run 3	15.0 kft	359	
113406	123158	Run 4	15.0 kft	357	
115258					HORACE crash
115300					TWC reset
122750					PSAP flow off
123429	124441	Profile 1.1	15.0 - 4.8 kft	037	
123620					PSAP flow on
123625					PSAP flow off
124441	125158	Profile 1.2	4.8 - 0.99 kft	044	
125311	125644	Profile 2	0.95 - 2.4 kft	044	
125718	125956	Profile 3	2.4 - 3.5 kft	043	
130120	130844	Run 5	3.5 kft	044	
131044	131502	Profile 4	3.5 - 5.0 kft	202	
131909	132912	Run 6	5.0 kft	205	
132942	133611	Profile 5	5.0 - 8.0 kft	203	
133100					SATCOM call
					CCM to DFL
133636	134637	Run 7	8.0 kft	202	
134717	135137	Profile 6	8.0 - 11.0 kft	204	
134725					PSAP flow on
135236	140237	Run 8	11.0 kft	208	
140310	140927	Profile 7	11.0 - 8.1 kft	209	
140600					HORACE crash
141249	141355	Profile 8	8.1 - 8.5 kft	206	
141602	142650	Run 9	8.3 kft	204	
142850					SATCOM call
					CCM to DFL
142850	143037	Profile 9	8.3 - 7.5 kft	205	
143111	143528	Profile 10	7.5 - 6.2 kft	204	
143400					PSAP flow off
143600					PSAP flow on
143632	144458	Profile 11	6.1 - 14.0 kft	204	
144718	153945	Run 10	14.0 - 6.8 kft	203	
145301					HORACE crash
153954	154242	Run 11.1	6.8 - 6.7 kft	296	
154650	154852	Run 11.2	5.7 - 5.8 kft	119	
155250	155453	Run 11.3	4.7 - 4.8 kft	302	
155800					HORACE crash
155815	160022	Run 11.4	4.0 - 4.0 kft		
161356		Land	-.18 kft	272	ASPs open
					for landing
161837	final GPS posn: 38 31.26N 28 42.98W				
161900	final INU posn: 38 20 00N 28 43.18W				



B031 Track 19-JUL-04



B031: ITOP – Interception of North American pollution to north of Azores.

Mission Scientists: John Methven & Steve Arnold

Date: 19/07/04

Outline schedule:

06:00 UT - Power to aircraft - Warm-up

08:00 UT - Air Crew Briefing

09:15 UT – Security sweep

09:30 UT – Boarding deadline

10:00 UT - Take-off

Location: North of Anava (42-47N)

Aim: To intercept extensive layers of polluted air between surface and FL140 that left US domain, after rapid ascent over the north-east coast, and slower ascent at low levels from SE US. Possible opportunities to intercept layers of air sampled by the NASA DC8 on 15/07/04. If time, sampling of air near Pico will be made, for comparison with surface observations.

Sortie Detail

1. T+0 Take Off. Ascend to first available level for wet chemistry checks. (10)
2. T+10 Ascend to FL150 and transit to Anava (40N, 25.4W). Include at least 20 mins level and in clear air for cals. (40).
3. T+50 Head north to enter operating region, descend to FL140 (20).
4. T+70 Level run due north @ FL140 to 44N. (through region of DC8 forward trajs) (50).
5. T+120 Profile descend to 500ft (500 ft/min) (to ~ 45N) (20).
6. T+140 Turn onto westward heading and profile ascend to 5000ft. (10)
7. T+150 Perform level run westwards @ 5000ft (10).
8. T+160 Turn onto reciprocal heading and perform profile ascent to FL90 (10).
9. T+170 Perform level run eastwards @ FL90 (10).
10. T+180 Return southwards @ FL90 to exit point of operating area (41N, 25.4W) (70).
11. T+250 Climb to FL140 and route to Anava. (20).
12. T+270 Return to Horta. Include at least 20 mins level in clear air for cals. (50).
13. T+320 Land.

CORE CHEMISTRY FLIGHT LOG

FLIGHT: B031	DATE: 19/07/2004	OPERATOR: Doug Anderson / Jim McQuaid	PAGE: 1 of 1
LOCATION: North of the Anava (42 – 47 N)		PROJECT: ITOP - Interception of North American pollution to north of Azores.	

GAS CYLINDER PRESSURES	N2	Argon/CO2	CO
PRE FLIGHT	psi / bar	psi / bar	psi / bar
POST FLIGHT	psi / bar	psi / bar	psi / bar

[illegible]

FWVS FLIGHT LOG

FLIGHT: B031	DATE: 19/07/2004	OPERATOR: Doug Anderson	PAGE: 1 of 1
LOCATION: North of the Azores		PROJECT: ITOP – Interception of North American pollution to north of the Azores	

[illegible]

Capt
Alan Roberts.

Flight Manager's In-Flight Log

Flight No B...031.....

Date19/07/2004.....

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Video Tapes	GPS	INU	DRS
V8	Lat 38°31.26 N	38°31.26 N	<input checked="" type="checkbox"/>
No.	Long 28°43.00 W	28°43.00 W	HORACE <input checked="" type="checkbox"/>
Ends	Time 10:18:05	10:19:31	SATCOM <input checked="" type="checkbox"/>
FFC / RFC / DFC / UFC	Status		

GMT	EVM	Height	QNH	Hdg	TAT	DP	DI Htr	Wind/ Sea st.
10:19:00		INU → NAV						
10:31:39		T/O from Horta						
10:35:00		ASPs open						
10:40:00		TWC off/on because no TWC signals reset successful						
10:50:40								
11:05:40		end of run 2						
11:52:30		TWC off						
11:53:00		TWC on						
11:52:58		HORACE crash (from normal hard drive)						
12:27:50		into cloud, icing on FFC, Rosemont icing on, PSAP off						
12:30:00		..						
12:36:20		PSAP on, anti-icing off						
12:36:25		PSAP off, anti-icing on						
12:45:29		Rosemont heater off						
13:31:00		SATcom-H call, CCM → DFL						
13:47:35		PSAP on						
14:06:00		HORACE crash						
14:09:27		end alt profile 7 (mushed on electronic log)						
14:28:50		SATcom-H call, CCM → DFL						
14:34:00		PSAP off						
14:36:00		PSAP on						
14:53:01		HORACE crash						
15:02:00		CORE CONSOLE FIRE PC CRASHED						

Flight Manager's In-Flight Log

Flight No B...031.....

Date 19/7/04

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Video Tapes		GPS	INU	DRS <input checked="" type="checkbox"/>
V8	Lat	38° 31' - 26 N	38° 20' 00 N	
No.	Long	28° 42' - 98 W	28° 43' - 18 W	HORACE <input checked="" type="checkbox"/>
Ends	Time	16:18:37	16:19:00	
FFC / RFC / DFC / UFC	Status	✓	✓	SATCOM <input checked="" type="checkbox"/>

[illegible]

Flight Manager's Faults / Incidents Log

Flight No. 8031

Instruments

NO RADALT SIGNAL

HORACE CLAIMS - ~~2~~ 4

NO TUC DATA JUST AFTER T/O, TURNED OFF/ON THEN OK.

FWD COCKPIT CONSOLE PC LOCKED UP. RE-BOOT

MISSION SCIENTIST CANNOT PRINT USING HIS LAPTOP.

Aircraft